Quality Control

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D3916-0	041			Accept	*N9000	740	100)* s	_	1/1	S1*
Rib Asse	mbly								Sto	^p *N	S2*
5/07/13		Start Qty: 4.00	*4*		Cust Item II) :					
5/07/13		Req'd Qty: 4.00	*4*		Customer:	•					•
		,						.	Sto	w4	
Proces	s Plan	:_ML5	Date: 13-05-03	Tooling:	Da	te:		К		1/1	R1*
									Sto	*N	R2*
D		-		Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
	Revis	ion Nbr									
i,	Α										
				0.00							
		Memo		0.00							· · · · · · · · · · · · · · · · · · ·
		2- Bend tube *** Make lii side of tube 3- Trim acce	with manuel pipe bender and as to 9.00" and use jig for owhen bending*** ss tube material to finish s	other lines, and ensure se ize as per dwg D3916	am in place on		—-@			13-05 13-05	
		QC6- Inspect dimensions	to drawing	0.00							2AC
		Mamo		0.00				(13.05	-ラブ	09 9-89
	D3916-0 Rib Asse 5/07/13 5/07/13	D:08 AM D3916-041 Rib Assembly 5/07/13 Frocess Plan QC: Revis	Rib Assembly 5/07/13 Start Qty: 4.00 5/07/13 Req'd Qty: 4.00 Process Plan:	D3916-041 Rib Assembly 5/07/13 Start Qty: 4.00 *4* 5/07/13 Req'd Qty: 4.00 *4* Process Plan: Date: 13-05-03 QC: Date: Operation Description Revision Nbr A Memo 1- Cut tube 50" 2- Bend tube with manuel pipe bender: *** Make line at 9.00" and use jig for considered of tube when bending *** 3- Trim access tube material to finish sidentification of the consideration of the cons	D3916-041 Accept	D3916-041 Accept *N9000 Rib Assembly 5/07/13 Start Qty: 4.00 *4* Cust Item II 5/07/13 Req'd Qty: 4.00 *4* Customer: Process Plan: Date: /3-05-03 Tooling: Date: SPC (Y/N): Date: SPC (Y/N): Date: SPC (Y/N): A 0.00 Memo 0.00 1- Cut tube 50" 2- Bend tube with manuel pipe bender as per DT9567 *** Make line at 9.00" and use jig for other lines, and ensure seam in place on side of tube when bending*** 3- Trim access tube material to linish size as per dwg D3916 4- Drill and chamfer holes as per dwg D3916-1 using DT9605 QC6- Inspect dimensions to drawing 0.00	D3916-041 Accept *N900040 Rib Assembly 5/07/13 Start Qty: 4.00 *4* Cust Item ID: 5/07/13 Req'd Qty: 4.00 *4* Customer: Process Plan: QC: Date: SPC (Y/N): Date: Operation Description Revision Nbr A 0.00 Memo 0.00 1- Cut tube 50" 2- Bend tube with manuel pipe bender as per D19567 *** Make line at 9.00" and use jig for other lines, and ensure seam in place on side of tube when bending*** 3-Trim access tube material to linish size as per dwg D3916 4- Drill and chamfer holes as per dwg D3916-1 using DT9605 QC6- Inspect dimensions to drawing 0.00	D3916-041 Accept *N90004010 Rib Assembly 5/07/13 Start Qty: 4.00 *4* Cust Item ID: Customer: Process Plan: QC: Date: Date: SPC (Y/N): Date: Operation Description Run Hours One Revision Nbr A O.00 Memo O.00 1- Cut tube 50" 2- Bend tube with manuel pipe bender as per D19567 *** Make line at 9.00" and use jig for other lines, and ensure seam in place on side of tube when bending*** 3- Trim access tube material to linish size as per dwg D3916 4- Drill and chamfer holes as per dwg D3916-1 using D19605 QC6- Inspect dimensions to drawing O.00	D3916-041 Accept *N900040100* SRib Assembly 5/07/13 Start Qty: 4.00 *4* Cust Item ID: Customer: Process Plan: Operation Description Set Up/ Run Hours Date: Operation Description Run Hours One and under with manuel pipe bender as per D19567 *** Make line at 9.00° and use; ig for other lines, and ensure seam in place on side of tube when bending*** 3- Trin access tube material to linish size as per dwg D3916-1 using D19605 QC6- Inspect dimensions to drawing Outper to the substance of the substance	D3916-041	D3916-041 Accept

											DQA:	Date:	:				
NCR:	es/	/ No				WORK ORDER NON-C	100	IFORM	MANCE / UPD	ATE							
						_	QA Closed: Date:										
Work Orde	٠ <u>٠</u>					DISPOSITION		AGAINST DEPARTMENT/PROCESS									
···		-		<u>.</u>		Rework	1		Skid-tube	Crosstube	Water Jet Engineering						
Part I	۱o.					Scrap			Machining	Small Fab	Pro	d. Eng. Coor.	Quality				
				· ·		Use-as-is			noforming	Finishing	 }	re/Packaging	Other				
NCR 1	١o.					Work Order Update			Large Fab	Composite		Supplier					
Root						ption of work order update	1	nitial	Acti		Sign &						
Cause		Date	Step	Qty		or Non-conformance	Ch	ief Eng	Descri	ption	Date	Verification	QC Inspector				
Doc/Data																	
quip/Tooling							1										
Operator								ı									
Material																	
Setup	_						l				,						
Other								ļ									
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Supplier Fraining		-															
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Landi	ng (Gear		*	* ~~	General											
	Ť	Bending			Ĺ	Bend		Grain			Ovalized		Pressure/Forced				
		Centre No	ot Concer	ntric to	o/s	BOM/Route		Hardwa	re .		Over/Under	tolerance	Temperature/Cure				
	.2	Cracks				Broken/Damaged		Inspecti	ion Incomplete		Part Incorred	ct	Weld				
` *	Crushed/Crimped Burrs				Burrs		Instruct	ions Incomplete/U	nclear	Part Lost/Mi	ssing	Wrong Stock Pulled					
•	Cuffs					Contamination		Mainte	enance		Part Moved						
	Heat Treat					Countersink		Mislabe	eled	L	Positioned V	Vrong	-				
		Inspection		Tube		Cut Too Short		Misread	d		Power Loss/	Surge	Other				
		Ripples in			<u> </u>	Drill Holes	<u> </u>	Offset									
	L	Torque W			n _	Drawing	Ŀ	1	Calibration								
	L	Turning S				Finish	<u></u>	1	Sequence								
	l	Wave/Tw	ist in Tub	oe .	l	Folio	1	Outside	Dimensions								

Wave/Twist in Tube

120

120

Quality Control

Work Orde May-01-13 7:30		0857				Page 2			
Revision ID:	D3916-041 Rib Assembly		A	Accept	*N900	<u>0</u> 40100)* Se	etup Start Stop	*NS1* *NS2*
Start Date: Required Date: Reference:	5/07/13 5/07/13	Start Qty: 4.00 Req'd Qty: 4.00	*4* *4*		Cust Item II Customer:	D:			
Approvals:		n:	Date:	Tooling: SPC (Y/N):		te:	Rı	un Start Stop	*NR1* *NR2*
Sequence ID/ Work Center II 107 *107* Large Fab Large Fab		Memo	rod Batch: MD3633 sing as per dwg D3916 ds flush	Set Up/ Run Hours 0.00	Tool ID	Tool # Plan Code	Accept Qty	•	Reject Insp. Number Stamp
*110 *110* QC Quality Control		QC5- Inspect part comple	eteness to step on W/O	0.00 AS 24 0.00	13.5.33		6		

0.00 PAG 13-5-23

QC10- Inspect visual per QSI004- ground welds

Memo

DQA: Date:

NCR:	Yes	1	No
NCK:	yes	/	INO

WORK ORDER NON-CONFORMANCE / UPDATE

			,						QA Closed:	Date	e: 			
Work Orde	·ř·				DISPOSITION		AGAINST DEPARTMENT/PROCESS							
Part N					Rework Scrap		Skid-tube Machining	Engineering Quality						
NCR N		···.			Use-as-is Work Order Update	The	ermoforming Large Fab	Small Fab Finishing Composite	-}	d. Eng. Coor. re/Packaging Supplier	Other			
Root				Descri	ption of work order update	Initial	A	ction	Sign &					
Cause	Date	Step	Qty		or Non-conformance	Chief Er	ng Des	cription	Date	Verification	QC Inspector			
Doc/Data														
Equip/Tooling														
Operator														
Material														
Setup														
Other														
Process														
Supplier														
Training		1							}					
Unapproved		1												
					F.	AULT CA	TEGORY							
Landin	ng Gear				General				_	<u></u>				
	Bending			. [Bend	Grain	n		Ovalized		Pressure/Forced			
	Centre No	ot Concei	ntric to	o/s	BOM/Route	Hard	ware		Over/Under	tolerance	Temperature/Cure			
	Cracks				Broken/Damaged	Inspe	ection Incomplete		Part Incorre	ct	Weld			
[Crushed/	Crimped			Burrs	Instru	uctions Incomplete	/Unclear	Part Lost/Mi	issing	Wrong Stock Pulled			
	Cuffs				Contamination	Mair	ntenance		Part Moved		·			
Ī	Heat Trea	at			Countersink	Misla	beled		Positioned V	Vrong				
Ī	Inspection	n Strip in	Tube	Γ	Cut Too Short	Misre	ead		Power Loss/	Surge	Other			
ľ	Ripples in	Bend			Drill Holes	Offse	et		-					
İ	Torque W		Extrusio	n	Drawing	Out	of Calibration			- 0				
•	Turning S				Finish	Out	of Sequence							
	Wave/Tw	-			Folio	House	ide Dimensions							

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Quality Control

Work Ord <i>May-01-13 7:36</i>		0857	• .	*100	857*				Page 3
Item ID: Revision ID:	D3916-041		A	Accept	*N9000	40100	* Setup		NS1*
Item Name: Start Date: Required Date: Reference:	Rib Assembly 5/07/13 : 5/07/13	Start Qty: 4.00 Req'd Qty: 4.00	*4* *4*		Cust Item ID: Customer:				NS2*
Approvals:		n:	Date:	Tooling: SPC (Y/N):	Date Date		Run	Start *	NR1* NR2*
Sequence ID/ Work Center I 130 *120* Packaging	D	Operation Description Identify as per dwg & Sto	ck Location: WADIS	Set Up/ Run Hours 0.00 0.00	Tool ID	Tool # Plan Code	Accept Re Qty Qt		iber Stamp
Packaging 140 *140* QC		QC21- Final Inspection -	Work Order Release	0.00	ï			13/6/	28 D

N 13.05.25

NCR: Y	es / N	0			WORK ORDER NON-C	CONFO	RMAN	CE / UPI	DATE			
										QA Closed:	Date	:
Work Orde	r:				DISPOSITION				AGAINST DI	EPARTMENT	/PROCESS	
Part N	o		10.0		Rework Scrap		Skid-t Machir	ning	Crosstube Small Fab		Water Jet d. Eng. Coor.	Engineering Quality
NCR N	o		*		Use-as-is Thermoforming Finishing Rec/Store/Packaging Work Order Update Large Fab Composite Supplier							Other
Root		Ţ		Descri	ption of work order update	Initial		Act	tion	Sign &		
Cause	Dat	e Step	Qty	(or Non-conformance	Chief E	ng	Desci	ription	Date	Verification	QC Inspector
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Other			}				1					
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Supplier	1											
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Inapproved		j		·	•							
,					F	AULT CA	regory					
Landin	g Gear	-			General					_	·	_
ſ	Bendi	ng			Bend	Grai	า			Ovalized		Pressure/Forced
	Centr	Not Conce	entric to	o/s	BOM/Route	Hard	ware			Over/Under	tolerance	Temperature/Cure
	Crack	;			Broken/Damaged	Inspe	ection Inco	omplete		Part Incorre	ct	Weld
	Crush	ed/Crimped	1		Burrs	Instr	uctions In	complete/l	Unclear	Part Lost/Mi	ssing	Wrong Stock Pulled
Ī	Cuffs				Contamination	Maii	ntenance	j •		Part Moved		
Ī	Heat 1	leat Treat Countersink				Misla	beled			Positioned V	Vrong	
ľ	Inspe	Inspection Strip in Tube Cut Too Short				Misr	ead			Power Loss/	Surge	Other
. [Ripples in Bend Drill Holes				Offse	et						
ľ	_	e Waves in	Extrusio	n	Drawing	Out	of Calibrat	ion	•			
<u> </u>	 1	ng Sequenc			Finish	Out	of Sequen	ce				
		Wave/Twist in Tube Folio					ide Dimer	isions				

DQA: ____ Date: ____

H:/FORMS/Quality Assurance\approved QA/NCRWO Rev G

May-01-13 7:30:07 AM

Work Order ID:

100857

Parent Item:

D3916-041

Parent Item Name:

Rib Assembly

Start Date: 5/07/13

Required Date: 5/07/13

Start Qty: 4.00

Required Qty: 4.00

Comments:

IPP RevA: New issue DD verified by:EC

verified by:EC

IPP Rev:B as per dwg revA 10.03.15

	verified by.EC													
Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status	
D3759-1		Manufactured	No			100	Each	316.0000	7	28	(F)	ろうつ	- ၁၁	DD
Bushing												, <u> </u>	_00_	- ' ⁻
				Location		Loc Oty	<u>La</u>	oc Code						
				WA004		316								
				664	89	1								
				792		1								
				834		7								
				865		20								
				882 897		3								
				907		11								
				980		30				,			•	
				987		240			47	}				
M304TS0.750W.049 304 SQ Tube .75x.75x.049W	· •W	Purchased	No			100	f	743.6758	4.166	17.541		13-05	- 3-8 -	·
				Location		Loc Qty	. Le	oc Code					•	
				MAT017		113.6758						÷		
					492	113.6758								
				WA006		629.9999555								
					484	29.9999555					٠			
					124	600			17.	€H. (26.3116			

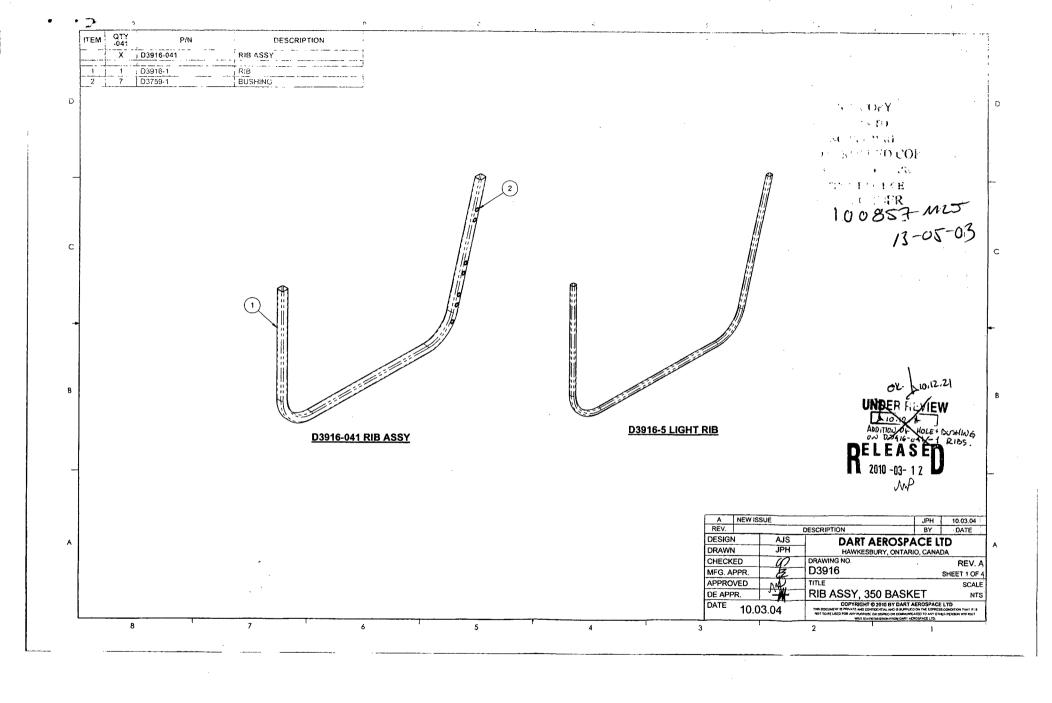
DQA: Date:

NCR: Yes / No

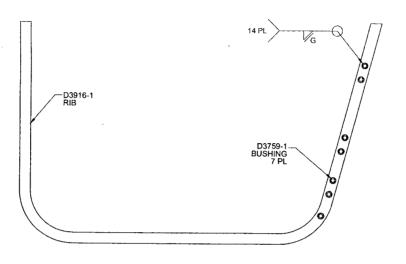
WORK ORDER NON-CONFORMANCE / UPDATE

	,						•		QA Closed:	Date	e:		
Work Orde	. ښ				DISPOSITION	AGAINST DEPARTMENT/PROCESS							
Work Orde	····				Rework]	Skid-tube	Crosstube]	Water Jet	Engineering		
Part N	lo				Scrap		Machining	Small Fab	8	d. Eng. Coor.	Quality		
					Use-as-is] The	rmoforming	Finishing	Rec/Stor	re/Packaging	Other		
NCR N	lo	<u></u>			Work Order Update	J	Large Fab	Composite		Supplier	ال ال		
Root				Descr	iption of work order update	Initial		ction	Sign &				
Cause	Date	Step	Qty		or Non-conformance	Chief Er	g Des	cription	Date	Verification	QC Inspector		
Doc/Data	_												
Equip/Tooling		}											
Operator													
Material											<u> </u>		
Setup													
Other													
Process													
Supplier	_					:							
Training		ļ											
Unapproved #		<u> </u>	<u> </u>										
<u> </u>						AULT CAT	EGORY						
Landir [ng Gear			_	General			_	ام المام	Г	¬		
	Bending			_	Bend	Grain		<u> </u>	Ovalized	<u> </u>	Pressure/Forced		
	Centre No	ot Concei	ntric to	^{0/S} -	BOM/Route	Hard			Over/Under Part Incorred	<u> </u>	Temperature/Cure Weld		
	Cracks	·		-	Broken/Damaged	—	ction Incomplete	/Unalogs	Part Incorrec		Wrong Stock Pulled		
	Crushed/ Cuffs	Crimpea			Burrs Contamination	\blacksquare	ctions Incomplete tenance	/Uniclear	Part Lost/Wil	zzus			
				-	Countersink	Misla		-	Positioned W	Irong			
	Heat Trea		Tubo	-	Cut Too Short	Misre		-	Positioned Vi		Other		
	Inspectio	-	rube	-	Drill Holes	Offse		<u> </u>	Ji Ower Loss/.		Totaler		
	Pinnles in	N Dond											
	Ripples in		Evtrucio	, ⊢		-							
	Ripples ir Torque W Turning S	Vaves in E		n	Drawing Finish	. Out c	t f Calibration f Sequence						

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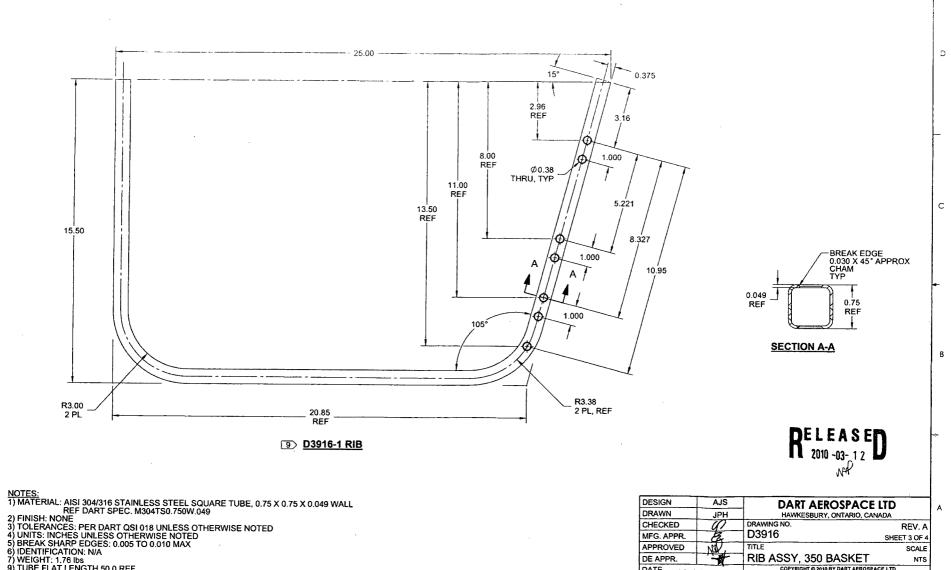


D3916-041 RIB ASSY

RELEASED 2010 -03-12

NOTES:
1) MATERIAL: N/A
2) FINISH: NONE
3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
4) UNITS: INCHES UNLESS OTHERWISE NOTED
5) BREAK SHARP EDGES: N/A
6) IDENTIFICATION: NONE
7) WEIGHT -041: 1.84 lbs
8) WELD PER DART QSI 004

DESIGN AJS DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA DRAWN JPH DRAWING NO. CHECKED REV. A D3916 MFG. APPR. SHEET 2 OF 4 TITLE
RIB ASSY, 350 BASKET
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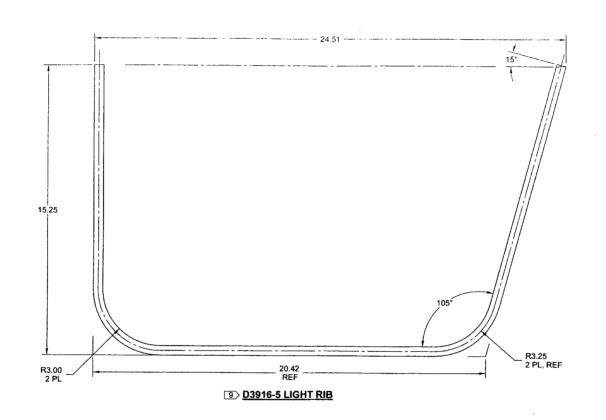


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С

9) TUBE FLAT LENGTH 50.0 REF

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NOT TO BE USED FOR ANY PURPLES OR COPED OR COMMUNICATED TO ANY OTHER PERS 10.03.04



NOTES:
1) MATERIAL: AISI 304/316 STAINLESS STEEL SQUARE TUBE, 0.50 X 0.50 X 0.049 WALL REF DART SPEC. M304T50.500W.049
2) FINISH: NONE
3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
4) UNITS: INCHES UNLESS OTHERWISE NOTED
5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
6) IDENTIFICATION: N/A
7) WEIGHT: 1.07 Ibs
9) TUBE FLAT LENGTH 49.5 REF

9

D

DESIGN DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA AJS DRAWN JPH CHECKED DRAWING NO. REV. A D3916 MFG. APPR. SHEET 4 OF 4 APPROVED TITLE SCALE RIB ASSY, 350 BASKET NTS

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NOT TO BE LIGHT FOR AMERICAN CONTRACTION TO PROTECT ON WHITE IN

WRITE IN PROTECTION (TO ALL AND AUDICACE LTD) DE APPR. NTS DATE 10.03.04